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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,781	10/14/2005	Victor Jensen	17922/04387	6801

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EXAMINER

JOHNSON, KEVIN M

ART UNIT	PAPER NUMBER
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1709

MAIL DATE	DELIVERY MODE
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10/03/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/526,781	JENSEN, VICTOR	
	Examiner	Art Unit	
	Kevin M. Johnson	1709	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/14/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 9-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 19 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>6/28/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

- a. Group I, claim(s) 1-8 and 19-20, drawn to a loose particulate material comprising silica sand grains coated with an elastomeric polymer material.
 - b. Group II, claim(s) 9-18, drawn to a method of producing a bulk material consisting of coated particles.
2. The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: a particulate material consisting of silica sand grains coated with an elastomeric material is taught by Meredith et al. in US 5041320.
3. During a telephone conversation with John Miller on 9/20/2007 a provisional election was made to prosecute the invention of group I, claims 1-8 and 19-20. Affirmation of this election must be made by applicant in replying to this Office action. Claims 9-18 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Information Disclosure Statement

4. The information disclosure statement (IDS) submitted on 6/28/2005 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the claim fails to disclose that the coating is placed on the silica sand, in that the amended claim currently discloses that the coating material contains 4-6% by weight silica and not the amount of the coating placed on the silica sand.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 1-7 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meredith (US 5041320) in view of Valligny et al. (US 2001/0011784 A1).

The claims are drawn to a particulate material comprising silica sand grains coated with a thermoplastic elastomer with a melt index of 25-35 g/10 min and a Shore A hardness of 50-80. The coating material comprises 4-6 wt% of the material, and the sand grains have a diameter in the range of 0.1-2 mm. The claims further disclose a sports surface where the material partially submerges a pile fabric.

Meredith teaches a sports surface comprising a pile fabric partly submerged in a layer of elastomer coated silica sand particles with a diameter in the range of 0.1-1 mm (column 3 lines 3-7) and the elastomer may consist of a copolymer containing polyolefin (column 3 lines 17-31). Additionally, an additive may be used that increases the bonding of the coating to the silica, for example an organo-silane (column 3 lines 33-36), and the coating accounts for 0.2-10 wt% of the grains (claim 3).

Meredith fails to teach the use of a thermoplastic elastomer with a melt index of 25-35 g/10 min and a Shore A hardness of 50-80.

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Valligny teaches a thermoplastic polyolefin elastomer for use in the production of flexible coatings with a melt flow index of 25-30 g/10 min.

It would have been obvious to one skilled in the art at the time of the invention to use the thermoplastic elastomer taught by Valligny as the coating for the material taught by Meredith. It would also have been obvious to one skilled in the art that a thermoplastic polyolefin elastomer with a melt flow index of 20-30 g/10 min would have a Shore A hardness in the range of 50-80.

One would have been motivated to make this modification because Meredith discloses the use of a polyolefin copolymer as the coating material, and it would be obvious to try in the pursuit of improved mechanical properties, such as impact resistance.

10. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Meredith in view of Valligny as applied to claims 1-7 and 19-20 above, and further in view of Bernard et al. (US 5723529).

The claim is drawn to the use of coupling agent for the silica and elastomer selected from a bifunctional silane comprising a reactive amino group and a hydrolyzable inorganic triethoxysilyl group, a terpolymer comprising glycidyl methacrylate groups and a terpolymer comprising maleic anhydride groups.

Meredith in view of Valligny teaches the use of an organo-silane coupling agent, but fails to teach the selection of one of the species claimed in the instant application.

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Bernard teaches the use of an organo-silane coupling agent consisting of a triethoxysilyl group and an amino group (column 7 lines 51-65) to promote the bonding between silica and elastomers.

It would have been obvious to one skilled in the art at the time of the invention that a coupling agent of the type described by Bernard would have been applicable in the production of the particles taught by Meredith.

One would have been motivated to make this modification by the disclosure of organo-silanes as a valid coupling agent by Meredith and the successful use of the organo-silane taught by Bernard.

Conclusion

11. All claims are rejected, no claims are allowed.
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M. Johnson whose telephone number is 571-270-3584. The examiner can normally be reached on Monday-Friday 7:30 AM to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on 571-272-0579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KMJ

VICKIE Y. KIM
SUPERVISORY PATENT EXAMINER

